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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,005	02/04/2004	Francois Pelletier	06670/0200859-US0	5365
7278	7590	06/24/2005	EXAMINER	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			SONG, SARAH U	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/773,005	<b>Applicant(s)</b> PELLETIER ET AL.	
	<b>Examiner</b> Sarah Song	<b>Art Unit</b> 2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-43 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 17-24 and 32-38 is/are rejected.
- 7) ☒ Claim(s) 10-16, 25-31 and 39-43 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Canada on February 4, 2003. It is noted, however, that applicant has not filed a certified copy of the 2 418 382 application as required by 35 U.S.C. 119(b).

### *Drawings*

2. This application has been filed with four (4) sheets of drawings, which have been approved by the Examiner.

### *Claim Objections*

3. Claim 21 is objected to because of the following informalities: Examiner believes that claim 21 should depend from claim 17, not claim 1. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1, 3-8, 17-23 and 32-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Shin et al. (U.S. Patent Application Publication 2004/0126062).**

6. Regarding claims 1 and 17, Shin et al. discloses assembly comprising:

- a length of optical fiber 16 having an optical grating region;

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- a Fiber Bragg Grating (FBG) 15 provided in said optical grating region, said FBG having a characteristic wavelength and a dispersion compensation profile;
- an elongated beam member 14 having a longitudinal neutral axis and provided with a cantilever portion;
- securing means 17 for continuously securing the optical grating region along the cantilever portion in a fixed relationship with said neutral axis;
- bending means 18 for bending the cantilever portion to generate a strain gradient along the FBG, said strain gradient adjusting the dispersion compensation profile and shifting the characteristic wavelength thereof; and
- compressing means 14 for compressing the cantilever portion longitudinally to generate a linear strain in the FBG, said linear strain rectifying the characteristic wavelength thereof.

7. Regarding claims 3 and 18, the cantilever portion has a constant cross-section perpendicular to the neutral axis along the optical grating region. Figure 3.

8. Regarding claims 4 and 19, the optical grating region is secured to the cantilever portion in parallel to the neutral axis. Figure 3.

9. Regarding claims 5 and 20, the securing means 17 are selected from the group comprising glue, an epoxy type material and a solder.

10. Regarding claims 6 and 21, the securing means comprise a fiber-guiding area receiving the optical grating region of the length of optical fiber therealong. Figure 3.

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11. Regarding claims 7 and 22, the cantilever portion has first and second opposed extremities, and the beam member comprises an anchor portion connected to said first extremity of the cantilever portion. Figure 5.

12. Regarding claims 8 and 23, the assembly further comprises a hollow member 22 having opposite ends and longitudinally receiving the beam member therein, the anchor portion of the beam member fitting snugly in the hollow member. Figure 5.

13. Regarding claims 32-36, the corresponding method steps are requisite for providing the disclosed structure.

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. **Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin et al.**

16. Regarding claim 2, Shin et al. does not expressly disclose a dispersion compensation profile defined by a linear chirp in the FBG. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the linear chirp in the FBG since it was well known in the art that FBG with linear chirp provides effective dispersion compensation.

17. **Claims 9, 24, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin et al. as applied to claim 8, 23 or 36 as applicable above, and further in view of Takabayashi et al. (U.S. Patent 6,522,809).**

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18. Regarding claims 9 and 24, Shin et al. does not disclose the bending means to comprise a pair of lateral screws projecting transversely in the hollow member on opposite sides of the cantilever portion of the beam member; and opposed threaded cavities extending transversely through the hollow member cooperating with said lateral screws.

19. Takabayashi et al. discloses bending means comprising a pair of lateral screws 908c projecting transversely in a hollow member on opposite sides of a cantilever portion of the beam member; and opposed threaded cavities extending transversely through the hollow member cooperating with said lateral screws. Figure 44.

20. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the pair of lateral screws and threaded cavities in the device of Shin et al. for the purpose of providing an adjustable bending means as suggested in the last paragraph of Shin et al.

21. Claims 37 and 38 would also have been obvious as setting forth requisite steps for operation of the bending means comprising the lateral screws.

***Allowable Subject Matter***

22. Claims 10-16, 25-31 and 39-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose or render obvious, either alone or in combination, the assembly further comprising a pressure exerting mechanism exerting a longitudinal pressure on the beam member from one of the opposite ends of the hollow member; and a restraining

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element at the other one of said opposite ends of the hollow member, or the corresponding method steps, as recited in claims 10, 25 and 39. Claims 11-16, 26-31 and 40-43 would also be allowable by nature of their dependency.

### ***Conclusion***


24. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sarah Song  
Patent Examiner  
Group Art Unit 2874